

Full Length Research Paper

On the dimensions of test anxiety and foreign language learners

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Anxiety is one of the most basic human emotions and occurs in every person. In the educational setting, anxiety is experienced often by the students when being evaluated such as when taking a test which is called test anxiety. 'Test anxiety' is an apprehension over academic evaluation. This anxiety is also available in foreign language learning. This study intends to investigate the relationship between age, gender, discipline and foreign language test anxiety specifically. The participants of the present study consisted of 323 Iranian undergraduate and post graduate university males and females students from different disciplines. Sarason Anxiety Scale (1975) was given to the students before the foreign language final exam. The results indicated that there was not a significant correlation between age and anxiety ($r = -0.024$, $P = 0.664$). The result of the independent t-test also established that males and females were equally affected by test anxiety, $t(321) = 5.24$, $P = 0.601$. Along with ANOVA pair wise comparisons of the means revealed that pre-university had the highest level of test anxiety ($M = 20.25$) comparing the students of other disciplines. Exploratory factor analysis found out 3 main factors with the more items loading on them regarding worry and emotional feeling before the exam. At the end some recommendations were presented for language teachers to help students reduce test anxiety.

Key words: Test anxiety, gender, discipline, foreign language anxiety.

INTRODUCTION

It was before the final exam time of a foreign language course that Student A complains of stomachache, being nervous and worrying about the test. During the exam time, Student A reported that he/she is anxious and is not able to do well. Though may be that student knows the material well he/she described herself/himself in the following way, "my mind goes blank, I get shaky and sweaty."

Anxiety is one of the most basic human emotions and occurs in every person. In the educational setting, anxiety is experienced often by the students when being evaluated such as when taking a test. Most students cope with this situation well, but there is a subset of 30% of students who experience severe anxiety, a condition most often called "test anxiety" (Huberty, 2009).

Test anxiety can have significant negative effects on a student's ability to perform at an optimal level. Like Student A who was nervous, students can face difficulty in reading and understanding the questions on the exam paper. They cannot organize their thought and as a result they do poorly on the exam even though they know the

material. Mental blocking is another effect of test anxiety which leads to going blank on questions and they can remember the correct answers as soon as the exam is over. Additional physical sign of chronic test anxiety can include perspiration, sweaty palm, headache, upset stomach, rapid heartbeat, tense muscle and trembling hand. Just like Student A, these observable behaviors of anxiety can be noticed during or before the completion process of a quiz.

Contributing factors to the development of test anxiety

There are different factors that contribute to the development of test anxiety. One factor is self-concept, which is the overall sum of self-referent information that an individual has processed, stored and organized in a systematic manner (Spielberger and Sarason, 1989). The self-concept can be viewed as an image of oneself. However, it should be noted that a reduction of the

self-image, particularly in the eyes of peers, leads to higher test anxiety levels (Freidman and Bendas-Jacob, 1997).

Another factor that contributes to the development of test anxiety is self-awareness. It is defined as the feeling of being observed or evaluated by others. Other people's perception of the individual may have an impact on performance (Levitt, 1980). A more commonly recognized factor of test anxiety is the classroom climate. People, in general, have the need to manipulate and control their surroundings in order to produce a comfortable environment. In a classroom setting, however, there may not be the opportunity to control the surroundings. This opens the door to the possibility of different levels of arousal.

The degree of arousal in relation to one's adaptation level will determine whether or not there will be a positive or negative affective experience (Spielberger and Sarason, 1985). If an individual's experience is negative, then the test anxiety level will be higher leading to lower performance. Consequently, if an individual's experience is positive, then the test anxiety level will be lower leading to higher performance.

Overall, it is important to consider motives, aptitudes, cognitive assessments of the task, and past experience when analyzing test anxiety and how it relates to performance (Smith, 1964 adapted from Vogel and Collins, 2011, weblearning house.net).

Foreign language anxiety

Learning a foreign language has always been associated with some level of tension especially when taking a test. A small amount of anxiety is expected and soothes away after the menacing situation is over. Foreign language anxiety is a very important affective variable in the research of foreign language education. According to Gardner and MacIntyre (1993) language anxiety which is described as a situation specific anxiety can be considered as the apprehension experienced when a situation requires the use of another language with which the student is not fully proficient. As stated by Horwitz and Young (1991) language anxiety has three varieties as follows:

- (1) Communicative apprehension: This occurs when learners have immature communications skills, though they have mature ideas and thoughts. It can be said that it is a fear about real communication with others.
- (2) Fear of negative evaluation: It is when language learners feel that they are not able to make proper social impression. In other words, it is an apprehension about others evaluation and avoidance of evaluative situations.
- (3) Test anxiety: It is an apprehension over academic evaluation. It is a fear of failing in test situations held consciously or unconsciously by learners. It comes from fear of failure.

In EFL (English as a foreign language) situations where English is not used for communication in society in everyday life, students will face the first apprehension less. But fear of negative evaluation and test anxiety exist in foreign language settings such as classroom environments for language learners. According to Horwitz et al. (1986, p. 128) "foreign language anxiety is a distinct complex of self-perception, belief, feeling, and behaviors related to classroom language learning arising from the uniqueness of the language learning process."

It is appears that anxiety debilitates foreign language learners' learning or performance in general (Kao and Craigie, 2010). As a result, learning a foreign language is unlikely to be successful.

Due to the importance of the topic and paucity of available knowledge regarding test anxiety and language learning the primary purpose of the present study was to contribute to research of the same line. The findings will be useful for researcher, university teaching staff, and even for the L2 learners. It is hoped that increasing and extensive knowledge about the dynamics of foreign language anxiety will guide them.

METHODOLOGY

Participants

The participants of the present study consisted of 323 undergraduate and post graduate university male and female students from different disciplines, levels and semesters who had different English classes namely, English pre-university (N = 59, M = 20.25), general English (N = 104, M = 18.41), specific English for MA students of Persian literature (N = 53, M = 19.19), and specific English for MA students of sociology (N = 107, M = 17.51). Their age range was from 18 to 53 with the mean and standard deviation of 25.43 and 6.64, respectively, and mode of 21.

Data collection procedure

In the final exam sessions and before conducting the test for each group, Sarason Anxiety Scale (1975) was given to the students. It was used to measure the participants test anxiety. This questionnaire includes 37 yes/no questions along with some demographic questions eliciting information such as, age, gender and field of study added by the researcher. To eliminate misunderstanding, the translation of the questionnaire was given to the students. The reliability of the test calculated by Cronbach alpha was 0.79.

Hypotheses

This study aims to contribute to the limited literature by presenting an insight for foreign language teachers to further understand the students and help them through their anxiety by the following null hypotheses.

- 1) Test anxiety does not vary with age.
- 2) Test anxiety does not vary with gender.
- 3) Test anxiety does not vary with disciplines.
- 5) The reasons of provoking test anxiety based on factor analysis.

Table 1. Pearson correlation between anxiety and age.

		Age
Anxiety	Pearson correlation	-0.024
	Sig. (2-tailed)	0.664
	N	323

Table 2. Independent sample t-test between anxiety score of males and females.

Gender	N	Mean	SD	t	Sig (two-tailed)
Male	148	18.39	5.74	5.24	0.601
Female	175	18.78	6.03		

Table 3. Descriptive statistics of test anxiety for different disciplines.

	N	Mean	Std. deviation
Pre-university	59	20.25	5.264
general	104	18.41	6.222
MA of literature	53	19.19	6.451
MA of sociology	107	17.51	5.435
Total	323	18.58	5.897

Table 4. ANOVA among four different disciplines.

		Sum of squares	df	Mean squares	F	Sig (two-tailed)
Anxiety test	Between groups	309.48	3	103.16	3.02	0.030
	Within groups	10889.25	319	34.13		
	Total	11198.73	322			

DATA ANALYSIS AND RESULTS

The data gathered from the participants were collected and were submitted to be processed. The results of are shown here. For the first null hypothesis correlation coefficient was calculated between anxiety score and age. Descriptive statistics illustrated that the mean score of anxiety was 18.58 with SD = 5.89 and the mean score of age was 25.42 and the SD = 6.64.

Table 1 illustrated that though there was a negative correlation between age and anxiety this correlation was not significant ($r = -0.024$, $P = 0.664$). In other words, there is no relationship between age and anxiety thus the first null hypothesis is accepted. "Test anxiety does not vary with gender" was the second null hypothesis. To answer this null hypothesis, an independent t-test was run between males and females. The results of Table 2 illustrated that there was not a significant difference between males and females regarding the anxiety, $t(321) = 5.24$, $P = 0.601$, hence the null hypothesis is accepted.

The result of analysis of variance (ANOVA) in Table 3 and 4 for the third null hypothesis, which is "test anxiety does not vary with discipline" point out that a significant overall difference was found among the four disciplines regarding test anxiety, $F(3,319) = 3.02$, $P = 0.030$. Subsequent post hoc Tukey's -honestly significant difference (HSD) procedure revealed the difference. Therefore, the null hypothesis that anxiety does not vary with discipline is rejected.

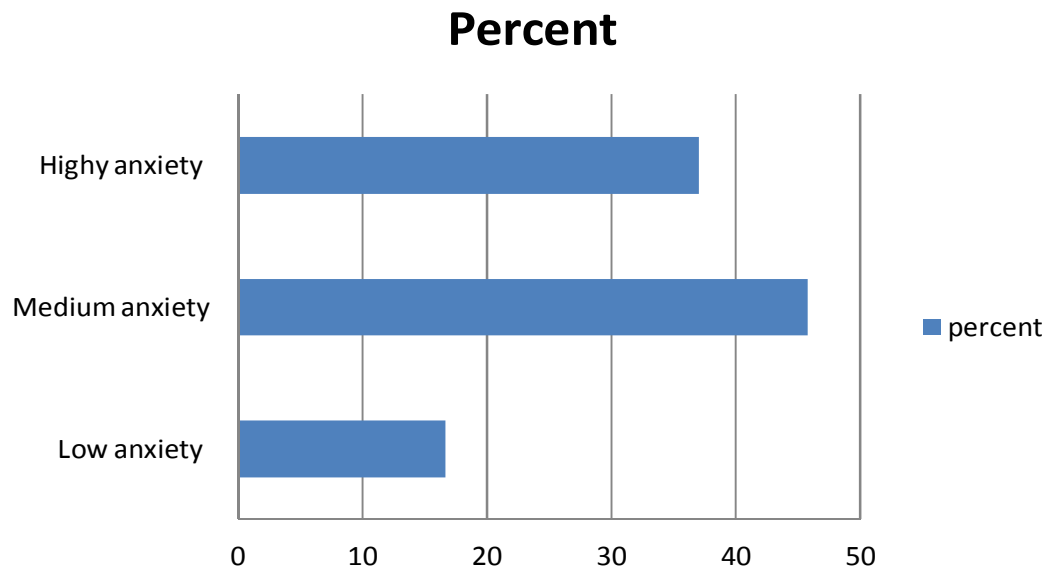
From Table 5 which shows all possible pair wise comparisons and comparing the means it is clear that this difference was found between pre-university students and MA level students of sociology. The mean anxiety of pre-university students was 20.25 and for MA students of sociology was 17.51 which was lower than that and also the lowest.

The last hypothesis concerned with the reasons of provoking test anxiety and factor analysis of the questions. Before dealing with that the level of test anxiety was shown. In Sarason's anxiety test, scores

Table 5. Tukey Post hoc test among four disciplines.

Dependant variable	I	J	Mean difference	Std. error	Sig.
Anxiety test	Pre- university	General	1.84	0.95	0.21
		MA of literature	1.06	1.10	0.77
		MA of sociology	2.74*	0.94	0.02
	General	Pre-university	-1.84	0.95	0.21
		MA of literature	-0.77	0.98	0.86
		MA of sociology	0.89	0.80	0.68
	MA of literature	Pre- university	-1.06	1.10	0.77
		General	0.77	0.98	0.86
		MA of sociology	1.67	0.98	0.32
	MA of sociology	Pre- university	-2.74*	0.94	0.02
		General	-0.89	0.80	0.67
		MA of literature	-1.67	0.98	0.32

The mean difference is significant at 0.05 level.

**Figure 1.** The level of test anxiety.

were divided into three levels. Less than 12 was considered low test anxiety, between 12 and 20 medium and more than 20 was high test anxiety score. It was depicted that 16.7% of the students had low test anxiety, 45.8% of them had moderate and finally 37.5% of them had high test anxiety which was shown in Figure 1.

The next step was doing factor analysis. Based on exploratory factor analysis, 6 factors were found out of which three of them were the main principals with the more items loading on them. The four other factors are too small in number to load to a clear cut factor analysis.

A large number of items, that is 12 items loaded on factor one, 5 other items loaded on Factors 2 and 4 other items on Factor 3.

Considering the factors, Table 6 shows the loading of 12 items on factor one which 8 of them are unique to the first subpart and 4 of them to the second subpart of the first factor. The items loading on the first subpart may characterize the physical and emotional anxiety such as trembling and shaking hands and bad feeling that the students may face before taking the exam such as questions 32 (Before an important examination, I find my

Table 6. Exploratory factor analysis of test anxiety rotated factor matrix.

	Factor							Factor					
	1	2	3	4	5	6		1	2	3	4	5	6
q32	0.651						q2	0.426					
q35	0.601		0.462				q4						
q37	0.600						q27		0.700				
q36	0.599		0.519				q28		0.649				
q23	0.561						q15		0.501				
q29	0.544						q30		0.427				
q33	0.526						q6						
q31	0.500			0.441			q19			0.534			
q22	0.457						q16			0.460			
q26	0.432						q7						
q21	0.408						q24						
q34	0.403						q12						
q25							q9				0.785		
q17							q14				0.435		
q5		0.483					q8			0.403	0.415		
q20		0.483					q11						
q13		0.468					q1						0.423
q10		0.456					q3						

Extraction Method: Principal Axis Factoring, Rotation Method: Varimax with Kaiser Normalization a. Rotation converged in 13 iterations.

hands or arms trembling), 34, 35 (It seems to me that examination periods should not be made in such intense situations), 36 (I started feeling very uneasy just before getting a test paperback) and 37. The second subpart, consisting of questions such as 29, 33 and 21, shows that students do not like the system of the test taken and also they do not feel that they should work harder for their final exam.

The next two factors show the anxiety and stress that exist even after the exam and during the exam which affect their performance. In general, the three factors of the test anxiety questionnaire are related to worrying during, before and even after the test.

DISCUSSION AND RECOMMENDATIONS

Foreign language anxiety has been of interest to language educators for decades (Baily, 1983). It is also an important issue in the context of language learning. Students are not born with test anxiety neither is it a mental illness. It can be either somatic or cognitive. In other words its root is what the students feel or what they think. As in student A, test anxiety can have physical sign.

In this study it was found that there is no relationship between age and test anxiety. The student at any age can suffer from test anxiety as it was shown that 45.8% of the students had moderate and 37.5% of them had high test anxiety.

Similarly, regarding gender and test anxiety no significant difference was uncovered between males and females. The results obtain in this study supports a few previous studies such as Aida (1994) and Chang (1996).

While significant difference was found among the disciplines. However, this difference cannot be attributed to the disciplines only. In other words, it can be justified in another way. Since the difference was found between pre-university students and MA students it can be said that due to the new university environment, sophomores had more anxiety and were more anxious regarding the result of the test or test taking.

Latent structure underlying test-taking anxiety or factors of the questionnaire were also uncovered. Three main factors were detected which were all related to physical and emotional anxiety that the student face before, during and even after the test.

Another important issue is factors that can influence test anxiety. Related literature indicated that there are some factors that have an influence on test anxiety such as, test validity, time limit, test technique, test format, length, testing environment and clarity of test instruction (Young, 1999). However, it is also possible to add some other factors such as, task difficulty, fear of getting bad grade, lack of preparation for the test, fear of negative evaluation and scoring subjectively.

Referring back to Student A, some recommendations on the role L2 teachers on reducing test anxiety can be presented especially for new comers to the university environment. Because it was shown that pre-university

students had the highest mean of test anxiety. This is good that language teachers acknowledge students fear and find ways to elevate test anxiety. As it was shown in factor analysis students prefer some objective ways of evaluation such as writing essay or assignments, group work and projects to compare the students' ability instead of final exam. Objective scoring method or objective testing is an important factor that can prevent test anxiety. On the other hand, students also should be aware that test are not the means of punishment or ways to authority, as most of the test anxiety reasons are due to idea of being negatively evaluated by teachers or parents.

Teachers should familiarize the students with the format of the exam and type of rating. Teachers should be aware of test validity and test what is taught. And the last but not the least is maintaining a positive, effective climate during the class hour or before the test as it is said, "Something as simple as an encouraging smile can diminish the ominous atmosphere" (Phillip, 1991). This smile can solve the problem of student A which is just sample from amongst all.

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